

## **Rejections under 35 USC § 103(a)**

### **Claims 13-15**

Claims 13-15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,475,249 to Hsu et al. (hereinafter *Hsu*) in view of U.S. Patent No. 5,415,888 to Banaerjee et al. (hereinafter *Banaerjee*). Claim 13 is the sole independent claim. Applicants respectfully disagree with the rejection.

The Examiner considers the claimed “plurality of first holes” in the first masking member to not be significant “since the courts have held that mere duplication of parts has no patentable significance unless a new and unexpected result is produced”. However, the Examiner ignores that *Hsu* teaches that the membrane is intentionally cut to a size (6 cm by 6 cm) that is only slightly larger than the dimension of the hole (5.5 cm by 5.5 cm) in the mask and, therefore, the size of the electrode (5.5 cm by 5.5 cm). *See* column 4, line 65 – column 5, line 2; column 5, lines 43-50. Hence, only a single electrode is present on the membrane and, consequently, only a single hole is required in the mask. The modification to *Hsu* proposed by the Examiner is not a modification that a person having ordinary skill in the art would have made given the dimensional relationships between the hole in the mask and the membrane expressly disclosed in *Hsu*.

The Examiner has failed to appreciate the new and unexpected result produced by Applicants' plurality of first holes. (MPEP §2144.04; *see In re Harza*, 274 F.2d 669 (CCPA 1960) ("It is well settled that the mere duplication of parts has no patentable significance unless a new and unexpected result is produced")). Applicants' plurality of first holes permits the pre-application of the first masking member to the first side of the electrolyte membrane so that the composite structure can be pre-produced and then used to mass produce shaped electrodes on a length of the electrolyte membrane in a coating device. The length of the electrolyte membrane is cut only after the shaped electrodes are mass produced. In contrast, *Hsu* discloses that the mask is only adhered to the membrane at the point of application of the catalyst slurry to form the electrode and that the mask only includes a single shaped hole. Thus, it would not have been obvious to one having ordinary skill in the art to modify *Hsu* as suggested by Examiner, to obtain the benefits of Applicants' plurality of first holes.

*Banaerjee* fails to remedy this deficiency of *Hsu*. Moreover, *Banaerjee* fails to disclose that the screen mask is attached to the membrane, much less that the screen mask is removably attached to the membrane. Instead, *Banaerjee* merely discloses that the screen mask is “placed on” the membrane. See column 7, lines 43-45. In fact, *Banaerjee* also discloses the use of a screen, which is also “placed on” the membrane, and fails to disclose that the screen mask is between the screen and membrane.

Accordingly, the Examiner has failed to satisfy the *Graham* factual inquiries to establish a *prima facie* case of obviousness. For this reason alone, Applicants request that the Examiner withdraw the rejection of independent claim 13.

Because claims 14 and 15 depend from independent claim 13, Applicants submit that these claims are also patentable for at least the same reasons as claim 13. Furthermore, each of these dependent claims recites a unique combination of elements not disclosed or suggested by the combined disclosures of *Banaerjee* and *Hsu*.

#### Claims 16-19

Claims 16-19 stands rejected under 35 U.S.C. § 103(a) as unpatentable over *Hsu* and *Banerjee* further in view of U.S. Pub. No. 2004/0209155 to Kosako et al. (hereinafter *Kosako*) and WO03/043818 to Iriya et al. (hereinafter *Iriya*). Because claims 16-19 depend from independent claim 13, Applicants submit these dependent claims are patentable for at least the same reasons discussed above. Specifically, *Kosako* and *Iriya* fail to remedy the deficiencies of *Hsu* and *Banerjee*. Hence, under the framework of the *Graham* factual inquiries, *prima facie* obviousness has not been established because there are unresolved differences between dependent claims 16-19 and the disclosure of *Hsu*, *Banerjee*, *Kosako*, and *Iriya*. Furthermore, each of these dependent claims recites a unique combination of elements not disclosed or suggested by *Hsu*, *Banerjee*, *Kosako*, and *Iriya*. For at least these reasons, Applicants therefore respectfully request that the Examiner withdraw the rejection.

#### Claim 20

Claim 20 stands rejected under 35 U.S.C. § 103(a) as unpatentable over *Hsu* and *Banerjee* further in view of U.S. Pub. No. 2004/0191956 to Shimoaka et al. (hereinafter *Shimoaka*) and *Iriya*. Because claim 20 depends from independent claim 13, Applicants submit this dependent claim is patentable for at least the same reasons discussed above. Specifically, *Iriya* and *Shimoaka* fail to remedy the deficiencies of *Hsu* and *Banerjee*. Hence, under the framework of the *Graham* factual inquiries, *prima facie* obviousness has not been established because there are unresolved differences between dependent claim 20 and the disclosure of *Hsu*, *Banerjee*, *Shimoaka*, and *Iriya*. Furthermore, this dependent claim recites a unique combination of elements not disclosed or suggested by *Hsu*, *Banerjee*, *Shimoaka*, and *Iriya*. For at least these reasons, Applicants respectfully request that the Examiner withdraw the rejection.

#### Claim 21

Claim 21 stands rejected under 35 U.S.C. § 103(a) as unpatentable over *Hsu* and *Banerjee* further in view of U.S. Patent No. 6,156,451 to Banerjee et al. (hereinafter *Banerjee* '451). Because claim 21 depends from independent claim 13, Applicants submit this dependent claim is patentable for at least the same reasons discussed above. Specifically, *Banerjee* '451 fails to remedy the deficiencies of *Hsu* and *Banerjee*. Under the framework of the *Graham* factual inquiries, *prima facie* obviousness has not been established because there are unresolved differences between dependent claim 21 and the disclosure of *Hsu*, *Banerjee*, and *Banerjee* '451. Furthermore, this dependent claim recites a unique combination of elements not disclosed or suggested by *Hsu*, *Banerjee*, and *Banerjee* '451. For at least these reasons, Applicants respectfully request that the rejection be withdrawn.

#### Claim 23

Claim 23 stands rejected under 35 U.S.C. § 103(a) as unpatentable over *Hsu* and *Banerjee* further in view of *Iriya*. Because claim 21 depends from independent claim 13, Applicants submit this dependent claim is patentable for at least the same reasons discussed above. Specifically, *Iriya* fails to remedy the deficiencies of *Hsu* and *Banerjee*. Under the

framework of the *Graham* factual inquiries, *prima facie* obviousness has not been established because there are unresolved differences between dependent claim 23 and the disclosure of *Hsu*, *Banerjee*, and *Iriya*. Furthermore, this dependent claim recites a unique combination of elements not disclosed or suggested by *Hsu*, *Banerjee*, and *Iriya*. For at least these reasons, Applicants respectfully request that the rejection be withdrawn.

### **Conclusion**

Applicants have made a bona fide effort to respond to each and every requirement set forth in the Office Action. In view of the foregoing remarks, this application is submitted to be in complete condition for allowance. Accordingly, a timely notice of allowance to this effect is earnestly solicited. If there is any additional matter that may be resolved by telephone or fax, the Examiner is invited to contact the undersigned to expedite issuance of this application.

Applicants do not believe that any fees are due in connection with this submission. However, if such petition is due or any fees are necessary, the Commissioner may consider this to be a request for such and charge any necessary fees to Deposit Account No. 23-3000.

Respectfully submitted,  
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